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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/785,188	02/20/2001	John F.T. Conroy		3777

7590

08/28/2003

Pamela M. Norris  
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Charlottesville, VA 22901

EXAMINER

NAFF, DAVID M

ART UNIT

PAPER NUMBER

1651

DATE MAILED: 08/28/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office

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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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09/785188

2/20/01

Conroy

EXAMINER

*NAFF*

ART UNIT

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DATE MAILED:

This is a communication from the Examiner in charge of this application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

**ADVISORY ACTION**

THE REPLY FILED FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.  
ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purpose of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on \_\_\_\_\_. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ they raise the issue of new matter (see NOTE below);
- (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_

3. ☒ Applicant's reply has overcome the following rejection(s): objection to claim 31 and rejection of claim 32 under 35 USC 112.
4. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowed if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attachment
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purpose of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: None

Claim(s) objected to: Claim

Claim(s) rejected: 15-24, 28, 29 + 31-36

Claim(s) withdrawn from consideration: \_\_\_\_\_

8. ☐ The proposed drawing correction filed on \_\_\_\_\_ is a) ☐ approved, or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
10. ☐ Other: \_\_\_\_\_

DAVID M. NAFF  
PRIMARY EXAMINER

ART UNIT 1265

ATTACHMENT TO FORM PTOL-303

In traversing the rejection of claims 26 and 29 under 35 U.S.C. 103, applicants urge that one would not use vegetative cells in a process as disclosed by Uo et al since methanol used in combination with yeast spores by Uo et al is an antimicrobial agent as indicated by a Block publication provided by applicants. However, Hino et al suggest that hydrolysis and gel formation when using TMOS as disclosed by Uo et al can be performed in the absence of an organic solvent such as methanol. This suggestion is provided by Hino et al describing hydrolyzing and forming a gel containing a microorganism without requiring the microorganism to be a spore when using a tetraalkoxysilane in combination with a polymer in the absence of an organic solvent. When desiring to substitute a vegetative cell for the yeast spore of Uo et al, it would have been obvious to omit the organic solvent as suggested by Hino et al to avoid the harmful affect of solvent on the vegetative cell. The references are applied together and must be considered together as a whole. Furthermore, the present claims do not exclude an organic solvent as used by Uo et al, and the present specification discloses (paragraph bridging pages 4 and 5) an embodiment of the invention that involves forming a sol containing an organic solvent, and mixing biological material with the sol. Thus, the present claims encompass mixing vegetative cells with a sol containing methanol. In view of applicants' arguments, this process would have resulted in a gel containing dead cells. Following

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the negative teachings of a reference is obvious when the result obtained is that suggested by the negative teaching of the reference.

In regard to claim 28, applicants urge that the references teach away from exposing organisms other than yeast spores to organic solvents. However, the bacterial cell of claim 28 can be a bacterial spore, which would have been expected to have a resistance to organic solvents similar to yeast spores. While Block may describe alcohols being sporicidal, the alcohols are sporicidal only after exposure to the alcohols for long periods of time such as years, months or weeks (Block, paragraph bridging pages 238 and 239).

In response to the rejection of claim 15, applicants urge that Klein et al use approximately 65% ethanol when the ratio of water to hydroxy metallate is 32:1. However, claim 15 does not exclude organic solvents and microbial spores such as yeast spores. It is clear from Uo et al that methanol can be used in combination with yeast spores, and other microbial spores would have been expected to also be resistant to methanol. Klein et al disclose that high water solutions are more completely hydrolyzed and condensed (last complete sentence on page 38), that increased water levels will increase the rate of hydrolysis (page 39, under "Conclusions"), and that a high water acid-catalyzed solution should produce a gel which has a high surface area (page 39, lines 7-9). To obtain these results, it would have been obvious to use a higher amount of water than used by Uo et al. Selecting a preferred optimum higher amount of water would have been a matter of individual preference within the ordinary skill of the art.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Naff whose telephone number is 703-308-0520. The examiner can normally be reached on Monday-Friday about 9:30-6:00.

5 If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Wityshyn can be reached on 703-308-4743. The fax phone number for the organization where this application is assigned is (703) 872-9306.

10 Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is 703-308-0196.

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David M. Naff  
Primary Examiner  
Art Unit 1651

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DMN

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